REMARKS/ARGUMENT

Claims 1, 2 and 4 are amended. The amendments to these claims are for clarification purposes only and not intended to limit the scope of these claims. Claims 8-10 are added to more clearly define the invention. No new matter is added.

Claim 1 is rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent 5,384,843 to Masuda et al. ("Masuda"). Claims 2 and 4 are rejected under 35 U.S.C. § 103 as being obvious over Masuda in view of U.S. Patent 5,787,165 to Lilja et al. ("Lilja") and further in view of U.S. Patent 5,463,618 to Furukawa et al ("Furukawa"). Claims 3 and 5 are rejected as being obvious over Masuda in view of Lilja, Furukawa, and further in view of U.S. Patent 5,940,499 to Fujii et al. ("Fuji"). Claims 6 and 7 are rejected as being obvious over Masuda in view of Furukawa. Reconsideration of the application in light of the remarks below is respectfully requested.

Rejections based upon 35 U.S.C. § 102

Among the limitations of independent claim 1, which are neither shown nor suggested in Masuda are:

> a transmitting side attenuation section for attenuating a microphone input voice signal having a first level to produce a transmitted voice signal having a second level;
>
> a receiving side attenuation section for attenuating a received voice signal having a third level to produce a speaker output voice signal having a fourth level;
>
> a transmitting side control section for comparing said first level of said microphone input voice signal with said fourth level of said speaker output voice signal to obtain a first difference therebetween, said transmitting side control section controlling, dependent on said first difference, an amount of attenuation of said microphone input voice signal in said transmitting side attenuation section; and

a receiving side control section for comparing said second level of said transmitted voice of signal with said third level of said received voice signal to obtain a second difference therebetween, said receiving side control section controlling, dependent on said second difference, an amount of attenuation of said received voice signal in said receiving side attenuation means.

The Office Action points to columns 1-2 and Fig. 1 as showing both the claimed attenuation sections. The only element in Fig. 1 of Masuda which performs attenuation is element 90. This attenuation is based on a simple comparison of a transmitted digital signal and a received digital signal. Of these two signals, the digital signal which is determined to be "smaller" is attenuated. Column 2, lines 58-66. There is no indication that any control sections control these attenuations. There is certainly no indication that these attenuations are based on differences between signal levels as defined in independent claim 1. Additionally, element 90 only has the ability to attenuate one digital signal or the other. In contrast, claim 1 indicates that both a microphone input voice signal and a received voice signal may be attenuated though both do not have to be attenuated.

The Office Action points to column 1, line 54 - column 2, line 7 as showing the transmitting side control section. However, this text discusses receipt of a "transmitted analog signal" through a microphone 10, passing that signal to a acoustic echo canceller 60, and then sending that signal to voice switched variable attenuator 90. The signal is then further sent to a D/A converter 31 and partially sent to sidetone echo canceler 70. There is no indication that an amount of attenuation in a transmitting side control section is controlled.

Similarly, the Office Action points to column 2, lines 17-43 and column 8, lines 8-12 as showing the receiving side control section. The reference to column 8, appears to be completely unrelated to both the claimed invention and the embodiment discussed in the prior art section in columns 1-4 of Masuda. This text in column 8 relates to a

determination whether an omnidirectional mode or a bidirectional mode is to be selected by a microphone direction control means 300. Column 7, lines 46-53; column 8, lines 1-13.

The text in column 2, lines 17-43 discusses receipt of a signal through a hybrid circuit 50. This signal is converted by A/D converter 22 and then sent to echo canceller 70. Thereafter the signal is sent to attenuator 90 and an amplifier 81. Finally, the signal goes to D/A converter 32 and speaker 40. Again, there is no indication that an attenuation of a receiving side attenuation section is controlled.

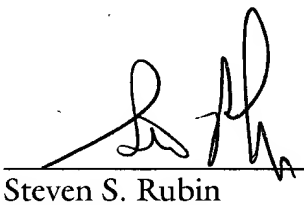
Therefore, it is asserted that independent claim 1 is patentable over Masuda. Reconsideration of the rejection of claim 1 under 35 U.S.C. § 102 is respectfully requested.

Rejections based upon 35 U.S.C. § 103

Claims 2-7 are rejected as being obvious of Masuda in view of various combinations of Lilja, Furukawa, and Fujii. These claims are dependent upon independent claim 1. As stated above, independent claim 1 includes limitations which are neither shown nor suggested in Masuda. All of Lilja, Furukawa, and Fujii are devoid of these limitations as well. Therefore, it is asserted that claim 1 is patentable over the art of record.

Claims 2-7 include the above referenced limitations of independent claim 1, and include additional recitations which, in combination with the limitations of claim 1, are also neither disclosed nor suggested in the art of record. It is asserted that these claims are patentable as well. Reconsideration of the rejection of claims 2-7 under 35 U.S.C. §103 is respectfully requested in light of the remarks above.

Respectfully submitted,



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APPENDIX A
Version With Markings To Show Changes Made
37 C.F.R. § 1.121(b)(1)(iii) AND (c)(1)(ii)

CLAIMS:

1. (Twice Amended) A voice switch system comprising:

a transmitting side attenuation section for attenuating a microphone input voice signal having a first level to produce a transmitted voice signal having a second level;

a receiving side attenuation section for attenuating a received voice signal having a third level to produce a speaker output voice signal having a fourth level;

a transmitting side control section for comparing said first level of said microphone input voice signal with said fourth level of said speaker output voice signal to obtain a [primary] first difference therebetween, said transmitting side control section controlling, dependent on said [primary] first difference, an amount of attenuation of said microphone input voice signal in said transmitting side attenuation section; and

a receiving side control section for comparing said second level of said transmitted voice of signal with said third level of said received voice signal to obtain a [secondary] second difference therebetween, said receiving side control section controlling, dependent on said [secondary] second difference, an amount of attenuation of said received voice signal in said receiving side attenuation means.

2. (Twice Amended) A voice switching system as claimed in claim 1, said receiving side control section further comprising:

a transmitting side signal delay buffer for providing said transmitted voice signal with a delay time, said delay time corresponding to a time for which said transmitted voice signal returns as said received voice signal through a communication line;

a transmitting side signal power estimation section for estimating a signal power of said transmitted voice signal outputted from said transmitting [said] side signal delay buffer;

a receiving side signal power estimation section for estimating a signal power of said received voice signal;

a [first] comparator for comparing [a primary] said estimated signal power of said transmitted voice signal estimated by said transmitting side signal power estimation section with

[a secondary] said estimated signal power of said received voice signal estimated by said receiving side signal power estimation section to obtain a ratio therebetween; and

a first attenuation amount calculation section for calculating an amount of attentuation in said receiving side attenuation section based on said ratio outputted from said first comparator.

4. (Twice Amended) A voice switching system as claimed in claim 1, said transmitting side [controller means] controller further comprising:

a microphone input power estimation section for estimating a signal power of said microphone input voice signal:

a speaker output signal delay buffer for providing said speaker output voice signal with a delay time, said delay time corresponding to a time for which a voice outputted from said speaker becomes said microphone input voice signal by a sound coupling with said microphone;

a first speaker output power estimation section for estimating a signal power of said speaker output voice signal outputted from said speaker output signal delay buffer;

a [second] comparator for comparing an estimated signal power of said microphone input voice signal estimated by said microphone input power estimation section with an estimated signal power of said speaker output voice signal estimated by said first speaker output power estimation section to obtain a ratio therebetween; and

[a second] an attentuation amount calculation [means] section for calculating an amount of attenuation in said transmitting side attenuation [means] section based on said ratio outputted from said second comparator.